REMARKS

This amendment is submitted in response to the office action dated September 22, 2005. Reconsideration and allowance of the claims is requested. In this office action, claims 24, 25 and 28 were rejected as being indefinite under 35 U.S.C. 112. Therefore, the claims have been reviewed and appropriate amendments made to eliminate the issues (specifically lack of specific antecedent basis) which were identified by the Examiner in the office action.

In the office action, claims 1, 2, 5-7, 9-12, 24, 26 and 27 are rejected under 35 U.S.C. 103 as unpatentable over *Gannett* US 6,118,452. Claims 4 and 21 are rejected under 35 U.S.C. 103 under *Gannett* considered with *Airey* US 6,650,327. Claims 16, 28 and 29 are rejected under 35 U.S.C. 103 as unpatentable under *Gannett* considered with *Mori* US 6,704,018.

In this response, applicant has rewritten claim 1 as a combination of claims 1 and 22, placing amended claim 1 in condition for allowance. Applicant has also combined the limitations of claim 1 with claims 24 and 25, placing amended claims 24 and 25 in condition for allowance. Claim 10 is cancelled and its dependent claims 11 and 12 now depend on claim 1. Claims 11 and 12, therefore, are now allowable as well. Finally, claim 26 is rewritten as an independent claim combining claims 1 and 26. This claim, and its dependent claims, are rejected over *Gannett*.

In the office action, the Examiner argues that *Gannett* clearly teaches the claimed features, citing the *Gannett* abstract and quoting "the processing associated with performing operations on non-displayed pixels is avoided...". This rejections is respectfully traversed.

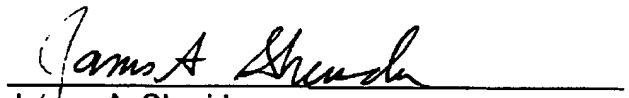
As recited in the claim and spelled out in an exemplary embodiment beginning at paragraph [0040] and continuing through paragraph [0043], the claimed embodiment of the invention produces processed fragment data including depth data. Depth data is stored in one of the output buffers and is used to identify visible fragments. More specifically, the processing pipeline computes a single depth value for each fragment, stores these depth values in another output buffer, and compares the computed depth value for a particular fragment to a depth value related to a position in a depth map. The position in the depth map corresponds to the x-y position of the fragment that is

also stored in an output buffer. As explained in the present application, if the fragment's computed depth value is equal to the depth value read from the depth map, then the fragment is visible. Referring specifically to paragraph [0042], processed fragment data is read along with a depth value set forth in a depth map for each fragment based on the actual x-y position of the fragment. Using this data, non-visible fragments are culled prior to shading. Importantly, texture mapping and other shading operations are not performed on non-visible fragments, resulting in improved shading performance. Thus, the culling of non-visible fragments is based on storing both depth data and fragment data in the output buffers, as claimed.

By contrast, in *Gannett* (figure 2 and the text at columns 15 and 16 as well as figures 4, 5A and 5B), the culling of fragments using depth data is a part of the overall processing sequence carried for each fragment of a plurality of fragments, and is conducted on a fragment-by-fragment basis, as explained with respect to figure 4, as part of that processing sequence. The processing described in the *Gannett* reference is not based on, and does not utilize, data stored in the output buffers, as claimed. Thus, the embodiment of claim 26 realizes a more efficient approach to culling of non-visible fragments based on storage of a depth map and a portion of processed fragment data in one or more of the output buffers, as described at the bottom of paragraph [0040].

As the foregoing illustrates, the broad citation made by the Examiner cannot prevent patenting of claim 26, and the dependent claims thereon, and allowance of such claims is therefore respectfully requested.

Respectfully submitted,



James A. Sheridan
Registration No. 25,435
PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Applicants